

Eocene beds in Montana, and in Pliocene deposits in California. Apparently all these specimens represent the same generic type; at least all are similar to *Viviparus* and all are calcareous. No record has yet been found of living Viviparidæ that have calcareous opercula.

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#### FURTHER NOTES ON SCALEZ PETROLIA

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BY DR. G. DALLAS HANNA

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This organism, presumed to be a mollusk, was originally described from operculum-like objects preserved in the upper part of the Etchegoin (Pliocene) formation of the southern end of the San Joaquin Valley, California.<sup>1</sup> Dr. W. P. Woodring<sup>2</sup> has recently recorded the finding of *Viviparus*-like shells associated with the opercula and which appear to have belonged to the same organism. For some reason the shell was exceedingly thin and delicate, yet the operculum was comparatively massively developed, a condition which is presumed to have been brought about by the changing of the old Etchegoin marine sea to the Tulare freshwater lake.

The organism did not last long as would be expected of such a specialized development, but it grew in prodigious abundance while it did exist. A few feet of strata mark its vertical range and for this reason it has become one of the best "markers" of a definite zone yet discovered in petroleum geology. It likewise had a fairly wide "horizontal" distribution, having been found in wells drilled in the center of the San Joaquin Valley, as well as for many miles, north and south, along the western border.

Unfortunately the original description contained two errors, one of which was avoidable, and this opportunity is taken to make the corrections. The type specimens came from the Midlands Oil Company's Well No. 1, Sec. 34, "T. 32 S.", R. 24

<sup>1</sup> Hanna & Gaylord, Proc. Calif. Acad. Sci. 4th ser., Vol. 13, 1924, pp. 147-149, 2 figs.

<sup>2</sup> NAUTILUS, Vol. 39, No. 4, 1926, pp. 109-111.

E., M. D. M., Kern County, California, the depth being given as 3306 feet. Through a typographical error the number of the township was given as T. 32 S., whereas it should have been T. 31 S. Subsequent discovery of the organisms in a great many wells in that general region has practically proved that the depth given must be erroneous and should be about 4020 feet. The geologist who made the original collection found the depth-data on the cores at the well somewhat uncertain, but failed to note this fact in the transmission of the material to the laboratory. It was impossible, with the data then available, to detect this error, and it was only discovered when subsurface contour maps were in process of construction. In the early days of economic micro-paleontological work the necessity of exact locality data was not fully appreciated by all of the field geologists.

The specimens from Pacific Oil Company well No. 23, Sec. 35, T. 30 S., R. 24 E., M. D. M. are indicated as having come from a depth of 3000 feet. The total depth of the well was 3005 feet and the shales containing *Scaletz* were blown out by gas after the drilling was finished. It was generally supposed by the field geologists that they came from the bottom, but subsequent plotting on subsurface maps indicates that they were blown from a depth of approximately 2108 feet below sea level, the elevation at that point being 707 feet.

The writer agrees fully with Dr. Woodring in the belief that the genus name chosen was somewhat unfortunate, but it is believed that our action may be excused when the facts which controlled the selection are made known. It so happened that the layer bearing the opercula had been previously found in several wells other than those mentioned in the original description and field men generally had come to refer to them as "white fish scales" and the term had been entered on the "logs" in that form. Obviously, we wished to change this practice; we did not want to let so important a fossil be continually referred to by a name so far from correct. In considering ways whereby a name in common usage might be displaced, the most feasible means appeared to be to select one similar in spelling and sound to the one in use. Therefore, we

chose *Scaez* from among several which were considered. The effectiveness of the displacement of the term "white fish scales" can be attested to by any one familiar with recent subsurface work in the region concerned.

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### TEXAS LAND AND FRESHWATER SHELLS

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BY E. G. VANATTA

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Dr. Julia Gardner in the course of geological work collected a box of drift on the south bank of the Colorado River,  $1\frac{1}{2}$  miles below the Travis-Bastrop County line, Texas, on June 16, 1925, from which the following species of shells were picked.

One sinistral specimen of *Pupoides marginatus* was found among about 100 dextral specimens of various sizes.

It is interesting to find *Gastrocopta corticaria* so far west. *Planorbis cultratus* is further north than before recorded, and the ranges of various other species are extended.

<i>Helicina orbiculata tropica</i>	<i>Gastrocopta procera riparia</i> Pils.
‘Jan.’ Pfr.	“ “ <i>sterkiana</i>
<i>Praticolella berlandieriana</i>	Pils.
Moric.	“ “ <i>mcclungi</i>
<i>Praticolella campi</i> C. & F.	Hanna
<i>Polygyra auriformis</i> Bld.	“ <i>cristata</i> P. & V.
<i>Polygyra mooreana</i> Binn.	“ <i>hordeacella</i> Pils.
<i>Polygyra texasiana</i> Moric.	<i>Vertigo tridentata</i> Wolf
<i>Polygyra roemeri</i> Pfr.	<i>Vertigo milium</i> Gld.
<i>Polygyra thyroidus</i> Say	<i>Strobilops labyrinthica texasiana</i>
<i>Polygyra fraterna friersoni</i> Pils.	Pils.
<i>Bulinulus dealbatus mooreanus</i>	<i>Vallonia parvula</i> St.
‘Binn.’ Pfr.	<i>Omphalina fragilis</i> Binn.
<i>Pupoides marginatus</i> Say	<i>Polita roemeri</i> Pils.
<i>Pupilla mucorum</i> L.	<i>Polita indentata umbilicata</i>
<i>Gastrocopta armifera</i> Say	Ckl.
“ <i>contracta</i> Say	<i>Euconulus trochulus</i> Reinh.
“ <i>pentodon tappani-</i>	<i>Striatura milium meridionalis</i>
<i>ana</i> Ad.	Pils.
“ <i>corticaria</i> Say	<i>Zonitoides arboreus</i> Say